

Preface

This volume contains the post workshop proceedings of the *Sixth International Workshop on Rewriting Logic and its Applications* (WRLA 2006) held in Vienna, Austria, April 1-2, 2006, as a satellite workshop of the *European Joint Conferences on Theory and Practice of Software* (ETAPS 2006).

Rewriting logic (RL) is a natural semantic framework for representing concurrency, parallelism, communication and interaction, and an expressive (meta)logical framework for representing logics. It can then be used for specifying a wide range of systems and logical and programming languages in various application fields. In recent years, several executable specification languages based on RL (ASF+SDF, CafeOBJ, ELAN, Maude) have been designed and implemented. The aim of the WRLA workshop series is to bring together researchers with a common interest in RL and its applications, and to give them the opportunity to present their recent works, discuss future research directions, and exchange ideas.

The topics of the workshop comprise, but are not limited to,

- foundations and models of RL;
- languages based on RL, including implementation issues;
- RL as a logical framework;
- RL as a semantic framework, including applications of RL to object-oriented systems, concurrent and/or parallel systems, interactive, distributed, open ended and mobile systems, and specification of languages and systems;
- formalisms related to RL, including real-time and probabilistic extensions of RL, tile logic, and rewriting approaches to behavioral specifications;
- verification techniques for RL specifications, including equational and coherence methods, and verification of properties expressed in modal and temporal logics;
- comparisons of RL with existing formalisms having analogous aims,
- application of RL to specification and analysis of distributed systems, and of physical systems.

Twenty papers were submitted, covering most of the topics above. Out of them the program committee selected 13 to be included in the workshop program, after a reviewing process in which every paper was evaluated by at least three referees. The workshop program also includes an invited lecture by Arvind, a rewriting competition, and several system and tool demonstrations.

Four of the previous WRLA workshops were held as independent events in Asilomar, California, USA (1996), Pont-à-Mousson, France (1998), Kanazawa, Japan (2000), and Pisa, Italy (2002). The fifth WRLA workshop was held as a satellite of ETAPS in Barcelona, Spain (2004). The corresponding proceedings have been published as volumes 4, 15, 36, and 71 in ENTCS. Also, selected papers from WRLA'96 have been published in a special issue of *Theoretical Computer Science* in 2002, and a special issue of *Higher Order and Symbolic Computation* consisting of selected papers from WRLA'04 is in preparation.

Even a small workshop like WRLA requires the effort of many people to make it happen. We want to thank first of all the authors who submitted papers and showed interest in the subject. The members of the program committee and the external referees appointed by them worked hard to satisfactorily complete the reviewing process on time, and we very much appreciate their efforts. Thanks to the ETAPS organizers, especially Andreas Krall for taking care of all the local arrangements, and answering many questions about organizational details. Thanks also to thank Mike Mislove, managing editor of the ENTCS series, for his assistance.

WRLA 2006 continued the tradition of stimulating discussion and provided participants with a clear view of the latest developments and research directions in rewriting logic and its different applications.

Program Committee

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